

## Sequence listing

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Glaxo Group Ltd

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 Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala Thr Cys  
 35 40 45  
 20 Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Leu Thr Gly  
 50 55 60  
 Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala Ser Leu  
 65 70 75 80  
 Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr Arg Gly Asp Thr  
 25 85 90 95  
 Gly Gly Ala Ser Ser Glu Asp Ser Leu Met Thr Ser Phe Leu Pro Gly  
 100 105 110  
 Pro Lys Pro Gly Ala Pro Phe Pro Asn Gly His Val Gly Ala Gly Gly  
 115 120 125  
 30 Ser Gly Leu Leu Pro Pro Pro Ala Leu Cys Gly Ala Ser Ala Cys  
 130 135 140  
 Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala Arg Val  
 145 150 155 160  
 Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp Ser Ala  
 35 165 170 175  
 Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met Gly Ser Ile Val  
 180 185 190  
 Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala Ala Leu  
 195 200 205  
 40 Gly Leu Val Ala Ile Tyr Phe Ala Thr Gln Val Val Phe Asp Lys Ser  
 210 215 220  
 Asp Leu Ala Lys Tyr Ser Ala  
 225 230

45  
 <210> 8  
 <211> 1788  
 <212> DNA  
 <213> Artificial Sequence

50  
 <220>  
 <223> DNA sequence for alphaprepro signal sequence fused  
 to human P501S and fused to a His tag

55 <400> 8  
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 gtcaacacta caacagaaga tgaaacggca caaattccgg ctgaagctgt catcggttac 120  
 tcagatttag aaggggattt cgatgttgct gttttgccat tttccaacag cacaataaac 180  
 ggggtattgt ttataaatat tactattgcc agcattgctg cttaaagaaga aggggtatct 240  
 60 ctcgagaaaa gagaggctga agccatggtg ctgggcattg gtccagtgcg gggcctggtc 300



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      tgtgtcccgc tcctaggctc agccagtgc cactggcgtg gacgctatgg ccgcccgcgg 360
      cccttcatct gggcactgtc cttgggcac cgtctgagcc tctttctcat cccaagggcc 420
      ggctggctag cagggctgct gtgcccggat cccaggcccc tggagctggc actgctcatc 480
      ctgggcgtgg ggctgctgga cttctgtggc caggtgtgct tcactccact ggaggccctg 540
5      ctctctgacc tcttccggga cccggaccac tgtgccagg cctactctgt ctatgccttc 600
      atgatcagtc ttgggggctg cctgggctac ctctgcctg ccattgactg ggacaccagt 660
      gccctggccc cctacctggg caccaggag gagtgcctct ttggcctgct caccctcatc 720
      ttcctcacct gcgtagcagc cacactgctg gtggctgagg aggcagcgtt gggccccacc 780
      gagccagcag aagggtgtgc ggccccctcc ttgtcgcccc actgctgtcc atgcccggcc 840
10      cgcttggtt tccggaacct gggcgccctg cttccccggc tgcaccagct gtgctgccgc 900
      atgccccgca ccctgcgccg gctcttcgtg gctgagctgt gcagctggat ggcactcatg 960
      accttcacgc tgttttacac ggatttcgtg ggcgaggggc tgtaccaggc cgtgcccaga 1020
      gctgagccgg gcaccgaggc ccggagacac tatgatgaag gcgttcggat gggcagcctg 1080
      gggctgttcc tgcagtgcgc catctccctg gtcttctctc tggctcatgga ccggctggtg 1140
15      cagcgattcg gcactcgagc agtctatttg gccagtgtgg cagctttccc tgtggctgcc 1200
      ggtgccacat gcctgtccca cagtgtggcc gtggtgacag cttcagccgc cctcaccggg 1260
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      aagcaggtgt tcctgcccac ataccgaggg gacactggag gtgctagcag tgaggacagc 1380
      ctgatgacca gcttccctgcc aggccttaag cctggagctc ccttccctaa tggacacgtg 1440
20      ggtgctggag gcagtggcct gctccacact ccaccgcgc tctgcggggc ctctgcctgt 1500
      gatgtctccg tacgtgtggg ggtgggtgag cccaccgagg ccagggtggg tccggggcgg 1560
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      tccctgttta tgggtccat tgtccagctc agccagtctg tcactgccta tatggtgtct 1680
      gccgcaggcc tgggtctggg cgccatttac tttgctacac aggtagtatt tgacaagagc 1740
25      gacttggcca aatactcagc ggggtggacac catcaccatc accattaa 1788

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&lt;210&gt; 9

&lt;211&gt; 595

&lt;212&gt; PRT

30 &lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Polypeptide sequence for alphaprepro signal  
sequence fused to human P501S and fused to a His  
tag

35

&lt;400&gt; 9

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 1      5      10      15
40      Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln Ile
      20      25      30
      Pro Ala Glu Ala Val Ile Gly Tyr Ser Asp Leu Glu Gly Asp Phe Asp
      35      40      45
45      Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu Phe
      50      55      60
      Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val Ser
      65      70      75      80
      Leu Glu Lys Arg Glu Ala Glu Ala Met Val Leu Gly Ile Gly Pro Val
      85      90      95
50      Leu Gly Leu Val Cys Val Pro Leu Leu Gly Ser Ala Ser Asp His Trp
      100      105      110
      Arg Gly Arg Tyr Gly Arg Arg Arg Pro Phe Ile Trp Ala Leu Ser Leu
      115      120      125
      Gly Ile Leu Leu Ser Leu Phe Leu Ile Pro Arg Ala Gly Trp Leu Ala
55      130      135      140
      Gly Leu Leu Cys Pro Asp Pro Arg Pro Leu Glu Leu Ala Leu Leu Ile
      145      150      155      160
      Leu Gly Val Gly Leu Leu Asp Phe Cys Gly Gln Val Cys Phe Thr Pro
      165      170      175
60      Leu Glu Ala Leu Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg

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	Gln	Ala	Tyr	Ser	Val	Tyr	Ala	Phe	Met	Ile	Ser	Leu	Gly	Gly	Cys	Leu
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5	Gly	Tyr	Leu	Leu	Pro	Ala	Ile	Asp	Trp	Asp	Thr	Ser	Ala	Leu	Ala	Pro
		210					215					220				
	Tyr	Leu	Gly	Thr	Gln	Glu	Glu	Cys	Leu	Phe	Gly	Leu	Leu	Thr	Leu	Ile
	225					230					235					240
	Phe	Leu	Thr	Cys	Val	Ala	Ala	Thr	Leu	Leu	Val	Ala	Glu	Glu	Ala	Ala
					245					250					255	
10	Leu	Gly	Pro	Thr	Glu	Pro	Ala	Glu	Gly	Leu	Ser	Ala	Pro	Ser	Leu	Ser
				260					265					270		
	Pro	His	Cys	Cys	Pro	Cys	Arg	Ala	Arg	Leu	Ala	Phe	Arg	Asn	Leu	Gly
			275					280					285			
	Ala	Leu	Leu	Pro	Arg	Leu	His	Gln	Leu	Cys	Cys	Arg	Met	Pro	Arg	Thr
15			290				295					300				
	Leu	Arg	Arg	Leu	Phe	Val	Ala	Glu	Leu	Cys	Ser	Trp	Met	Ala	Leu	Met
	305					310					315					320
	Thr	Phe	Thr	Leu	Phe	Tyr	Thr	Asp	Phe	Val	Gly	Glu	Gly	Leu	Tyr	Gln
					325					330					335	
20	Gly	Val	Pro	Arg	Ala	Glu	Pro	Gly	Thr	Glu	Ala	Arg	Arg	His	Tyr	Asp
				340					345					350		
	Glu	Gly	Val	Arg	Met	Gly	Ser	Leu	Gly	Leu	Phe	Leu	Gln	Cys	Ala	Ile
			355					360					365			
	Ser	Leu	Val	Phe	Ser	Leu	Val	Met	Asp	Arg	Leu	Val	Gln	Arg	Phe	Gly
25			370				375					380				
	Thr	Arg	Ala	Val	Tyr	Leu	Ala	Ser	Val	Ala	Ala	Phe	Pro	Val	Ala	Ala
	385					390					395					400
	Gly	Ala	Thr	Cys	Leu	Ser	His	Ser	Val	Ala	Val	Val	Thr	Ala	Ser	Ala
					405					410					415	
30	Ala	Leu	Thr	Gly	Phe	Thr	Phe	Ser	Ala	Leu	Gln	Ile	Leu	Pro	Tyr	Thr
				420					425					430		
	Leu	Ala	Ser	Leu	Tyr	His	Arg	Glu	Lys	Gln	Val	Phe	Leu	Pro	Lys	Tyr
			435					440					445			
	Arg	Gly	Asp	Thr	Gly	Gly	Ala	Ser	Ser	Glu	Asp	Ser	Leu	Met	Thr	Ser
35			450				455					460				
	Phe	Leu	Pro	Gly	Pro	Lys	Pro	Gly	Ala	Pro	Phe	Pro	Asn	Gly	His	Val
	465					470					475					480
	Gly	Ala	Gly	Gly	Ser	Gly	Leu	Leu	Pro	Pro	Pro	Pro	Ala	Leu	Cys	Gly
					485					490					495	
40	Ala	Ser	Ala	Cys	Asp	Val	Ser	Val	Arg	Val	Val	Val	Gly	Glu	Pro	Thr
				500					505					510		
	Glu	Ala	Arg	Val	Val	Pro	Gly	Arg	Gly	Ile	Cys	Leu	Asp	Leu	Ala	Ile
			515					520								

55

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<210> 10
<211> 553
<212> PRT
<213> Mus musculus
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60

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20 25 30  
Ala Ala Gly Ile Thr Tyr Val Pro Pro Leu Leu Leu Glu Val Gly Val  
35 40 45  
Glu Glu Lys Phe Met Thr Met Val Leu Gly Ile Gly Pro Val Leu Gly  
50 55 60  
10 Leu Val Ser Val Pro Leu Leu Gly Ser Ala Ser Asp Gln Trp Arg Gly  
65 70 75 80  
Arg Tyr Gly Arg Arg Arg Pro Phe Ile Trp Ala Leu Ser Leu Gly Val  
85 90 95  
15 Leu Leu Ser Leu Phe Leu Ile Pro Arg Ala Gly Trp Leu Ala Gly Leu  
100 105 110  
Leu Tyr Pro Asp Thr Arg Pro Leu Glu Leu Ala Leu Leu Ile Leu Gly  
115 120 125  
Val Gly Leu Leu Asp Phe Cys Gly Gln Val Cys Phe Thr Pro Leu Glu  
130 135 140  
20 Ala Leu Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg Gln Ala  
145 150 155 160  
Phe Ser Val Tyr Ala Phe Met Ile Ser Leu Gly Gly Cys Leu Gly Tyr  
165 170 175  
25 Leu Leu Pro Ala Ile Asp Trp Asp Thr Ser Val Leu Ala Pro Tyr Leu  
180 185 190  
Gly Thr Gln Glu Glu Cys Leu Phe Gly Leu Leu Thr Leu Ile Phe Leu  
195 200 205  
Ile Cys Met Ala Ala Thr Leu Phe Val Thr Glu Glu Ala Val Leu Gly  
210 215 220  
30 Pro Pro Glu Pro Ala Glu Gly Leu Leu Val Ser Ala Val Ser Arg Arg  
225 230 235 240  
Cys Cys Pro Cys His Val Gly Leu Ala Phe Arg Asn Leu Gly Thr Leu  
245 250 255  
35 Phe Pro Arg Leu Gln Gln Leu Cys Cys Arg Met Pro Arg Thr Leu Arg  
260 265 270  
Arg Leu Phe Val Ala Glu Leu Cys Ser Trp Met Ala Leu Met Thr Phe  
275 280 285  
Thr Leu Phe Tyr Thr Asp Phe Val Gly Glu Gly Leu Tyr Gln Gly Val  
290 295 300  
40 Pro Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly  
305 310 315 320  
Ile Arg Met Gly Ser Leu Gly Leu Phe Leu Gln Cys Ala Ile Ser Leu  
325 330 335  
45 Val Phe Ser Leu Val Met Asp Arg Leu Val Gln Lys Phe Gly Thr Arg  
340 345 350  
Ser Val Tyr Leu Ala Ser Val Met Thr Phe Pro Val Ala Ala Ala Ala  
355 360 365  
Thr Cys Leu Ser His Ser Val Val Val Thr Ala Ser Ala Ala Leu  
370 375 380  
50 Thr Gly Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala  
385 390 395 400  
Ser Leu Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr Arg Gly  
405 410 415  
55 Asp Ala Gly Gly Ser Ser Gly Glu Asp Ser Gln Thr Thr Ser Phe Leu  
420 425 430  
Pro Gly Pro Lys Pro Gly Ala Leu Phe Pro Asn Gly His Val Gly Ser  
435 440 445  
Gly Ser Ser Gly Ile Leu Ala Pro Pro Pro Ala Leu Cys Gly Ala Ser  
450 455 460  
60 Ala Cys Asp Val Ser Met Arg Val Val Val Gly Glu Pro Pro Glu Ala

12